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From Tony Zhang, Ph.D.

Re Organic photovoltaic cell - United States
Application No.: 10/525,058
Our Ref.: 15626-0048US1

Number of pages
including this page 3

Message

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Re: ORGANIC PHOTOVOLTAIC COMPONENT AND METHOD FOR
PRODUCTION THEREOF

Application No.: 10/525,058
Our Ref.: 15626-0048US1



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Dear Examiner Mowla:

Thank you for granting a telephone interview, scheduled for Thursday, May 27, 2010 at 1:30 PM, to discuss the office action dated February 22, 2010 ("Office Action"). This letter outlines what we would like to discuss with you during the telephone interview.

In the Office Action, claims 1, 3, 4, 6, 7, 9-17, 20-25, 27, 28, 30-51, and 53 are rejected as being obvious over Fujimori in view of Saurer and/or Shaheen. Among the rejected claims, claims 1, 4, 7, 16, 23, 36, 38, and 40, are independent. We first discuss independent claims 1, 7, 16, and 23, each of which recites a photovoltaic component or cell including a substrate having a structured surface, as well as a first electrode having a planar surface or an organic semiconductor layer having a planar surface.

Saurer is the only cited reference that discloses a photovoltaic cell having a structured layer. The Office Action states that "Saurer teaches a photovoltaic device (photovoltaic cell 1; see fig. 2; col. 3, lines 6-65) wherein the first surface of the substrate (2) is structured (see fig. 2; col. 3, lines 55-62)." See, e.g., page 5, 1st paragraph.

However, Saurer discloses a photovoltaic that includes not only a structured substrate, but also a structured electrode and a structured semiconductor layer. Specifically, Saurer states that "[t]he object of the invention is therefore a photovoltaic cell comprising a substrate having a support face on which there is disposed a first electrode, a second electrode insulated from the first electrode by a plurality of layers having at least a first layer of a semiconducting material with an active junction at an interface thereof, characterised in that said active junction exhibits a developed surface area greater than its projected surface area." See column 1, lines 49-57. In other words, Saurer's objective is to provide a photovoltaic cell in which a

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semiconductor material layer includes an active junction having a developed surface area, which is interpreted by the Office Action as a structured layer (see, e.g., page 5, 1st paragraph).

In addition, Saurer states that "the support face 4 of the substrate 2 exhibits a developed surface area greater than its projected surface area. The following layers which extend successively on the substrate 2 closely embrace the configuration in relief of the support face 4 in such a way that the texture of the face 4 of the substrate 2 results in the active junction J having a developed surface area greater than its projected surface area." See column 3, lines 55-62 and Fig. 2. In other words, Saurer teaches that, to achieve its objective, a structured semiconductor material layer (i.e., having the active junction J having a developed surface) is prepared by forming a substrate 2 having a structured face 4 and applying additional layers (e.g., a first electrode 6 and a first layer 14 of a semiconductor material) onto substrate 2 that closely embrace the configuration of the structured face 4. It follows that both the first layer 14 of a semiconductor material and the first electrode 6 described in embodiment above are structured (i.e., without a planar surface).

Saurer does not disclose a photovoltaic component or cell including a substrate having a structured surface, but a first electrode having a planar surface or an organic semiconductor layer having a planar surface, as required by claims 1, 7, 16, and 23. Nor do the other two cited references, i.e., Fujimori and Shaheen. Thus, claims 1, 7, 16, and 23 are would not have been obvious over Fujimori in view of Saurer and/or Shaheen.

Turning to the other independent claims, we are willing to incorporate the phrase "the first electrode has a planar surface" into claim 4 and the phrase "the organic semiconductor layer is not structured" into claims 36, 38, and 40. Support for the latter amendment can be found at page 5, lines 12-17 of the application. We believe that these amendment should overcome the obviousness rejection of these four claims.

I look forward to speaking to you and your supervisor.

Very truly yours,



Tony Zhang, Ph.D.
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